This work describes the donor-acceptor stabilization of reactive and elusive main group entities, such as low valent group 14 hydrides (GeH$_2$ and SnH$_2$), iminoboranes (HB=NH) or oxoboranes (ClB=O or HOB=O) with the aid of Wittig reagents or N-heterocyclic carbenes (NHCs) as donors. The reactivity of such donor-acceptor complexes was studied in detail. Furthermore, traditional hot injection or microwave assisted heating of a GeH$_2$ donor-acceptor complex yielded luminescent surface functionalized Ge nanoparticles.